

PATENT COOPERATION TREATY

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WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION

See paragraph 2 below

International application No.
PCT/US2004/017578

International filing date (day/month/year)
02.06.2004

Priority date (day/month/year)
02.06.2003

International Patent Classification (IPC) or both national classification and IPC
H04B1/707, H04L25/03, H04L1/20

Applicant

QUALCOMM INCORPORATED

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - a sequence listing
 - table(s) related to the sequence listing
 - b. format of material:
 - in written format
 - in computer readable form
 - c. time of filing/furnishing:
 - contained in the international application as filed.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/017578

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims 1,2-6,10,15,16,21,22,26
	No:	Claims 7,8,9,11-14,17,18,19,20,23,24,25,27-32
Inventive step (IS)	Yes:	Claims
	No:	Claims 1-32
Industrial applicability (IA)	Yes:	Claims 1-32
	No:	Claims

2. Citations and explanations

see separate sheet

Re Item V.

1 The following documents are referred to in this communication:

D1 : US 6 167 081 A (BRADLEY WAYNE H ET AL) 26 December 2000 (2000-12-26)

D2 : WO 02/09305 A (QUALCOMM INC) 31 January 2002 (2002-01-31)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent claims 1, 15 and 16 does not involve an inventive step in the sense of Article 33(3) PCT.

2.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

A method of receiving data in a wireless communication system (column 1, lines 4-12), the method comprising the following steps:

processing received signals through a non-equalizing demodulator element (FIG.3);

measuring a first quality metric of the non-equalized demodulated processed signals (column 3, lines 52-65);

comparing said first quality metric to a first threshold value; and

when the first quality metric exceeds the first threshold value, enabling an equalizer (column 7, lines 8-9; column 8, lines 47-54).

2.2 The subject-matter of claim 1 therefore differs from this known method of receiving disclosed in document D1 in that: the received signals are processed through a RAKE demodulator instead of a non-equalizing demodulator.

2.3 The feature of using a RAKE demodulator is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, for example if the received signal is a CDMA signal, without the exercise of inventive skill, in order to accurately demodulate such a signal.

Therefore, applying the teachings of the method disclosed in D1 to a well known apparatus such as a RAKE receiver, comes within the scope of the customary practice followed by skilled persons in the art, especially as the advantages thus

achieved can be readily contemplated in advance.

- 2.4 Consequently, the subject-matter of claim 1, although new, lacks an inventive step and therefore this claim is not allowed (Art. 33(1) and 33(3) PCT).
- 2.5 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 15 (apparatus for receiving), which therefore is also considered not involving an inventive step.
- 2.6 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 16 (see D1, column 3, lines 49-65; column 4, lines 10-23), which therefore is also considered not involving an inventive step.
- 3 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 7, 17, 18 and 19 is not new in the sense of Article 33(2) PCT.

- 3.1 Document D2 discloses (the references in parenthesis applying to this document):

A method of receiving data in a wireless communication system (page 1, lines 9-12; Fig.1), the method comprising the following steps:

processing received signals through a RAKE processing element to generate RAKE processed signals (Fig. 3);

periodically testing operations conditions (page 17, lines 17-24), comprising the steps of:

processing received signals through an equalizer to generate equalizer processed signals (Fig.3; page 10, lines 15-23);

measuring a first quality metric of the RAKE processed signals (page 3, lines 16-20);

measuring the first quality metric of the equalizer processed signals (page 3, lines 13-15; page 4, lines 24-29);

comparing the first quality metric of the RAKE processed signals to the first quality metric of the equalizer processed signals (page 3, lines 18-20; page 30, last paragraph); and

determining whether to enable the equalizer based on the comparison (page 30, last paragraph; page 10, lines 24-30; FIG. 3).

Consequently, the subject-matter of claim 7 is not new in the sense of Article 33(2) PCT.

- 3.2 it is noticed that the step of "determining whether to enable the equalizer" is interpreted as a step of determining whether to select or use the equalizer processed signals since the equalizer was already enabled to performed the step of processing received signals through an equalizer.
- 3.3 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 17 (apparatus for receiving), which therefore is also considered not new.
- 3.4 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 18 (see D2, page 32, lines 15-24), which therefore is also considered not new.
- 3.5 Similar reasoning applies to claims 19 and 20 which therefore are also considered not new.
- 4 Dependent claims 8, 9, 11-14, 23, 24, 25, 27-32 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty (Article 33(2) and (3) PCT) since the additional features of those claims are already disclosed in D2 (see the corresponding passages cited in the search report).
 - 4.1 Dependent claims 10 and 26 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, since the additional features of those claims are merely one of several straightforward possibilities from which the skilled person would select in order to provide a quality measure indication.
 - 4.2 Regarding D1 where a two threshold configuration is disclosed (see column 7, lines 31-36), dependent claims 2-6, 21 and 22 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, since those claims are considered as a slight constructional change in the method or apparatus of document D1 which simply imply the choice from known or obvious alternatives for

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International application No.

PCT/US2004/017578

measuring quality metrics with no new or unexpected results.